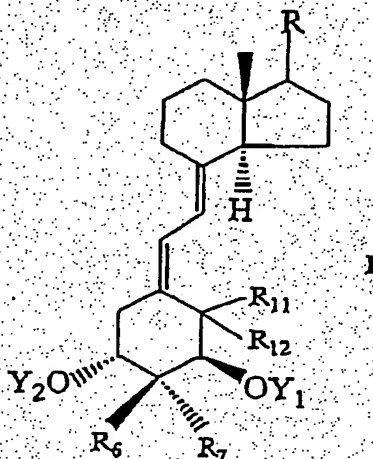
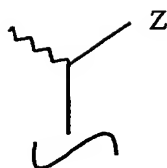


CLAIMS

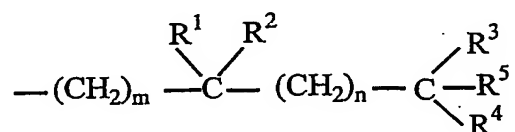
1. A method of stimulating osteoblastic-mediated growth of new bone in a mammal comprising administering to a mammal in need thereof a therapeutically effective amount of a compound having the formula:



where Y_1 and Y_2 , which may be the same or different, are each selected from the group consisting of hydrogen and a hydroxy-protecting group, where R_{11} and R_{12} are each hydrogen or taken together are a methylene group, where R_6 and R_7 , which may be the same or different, are each selected from the group consisting of hydrogen, alkyl, hydroxyalkyl, fluoroalkyl, hydroxy and alkoxy, with the proviso that R_6 and R_7 cannot both be hydrogen, or R_6 and R_7 when taken together may represent the group $-(CH_2)_x-$ where x is an integer from 2 to 5, or R_6 and R_7 when taken together may represent the group $-CR_8R_9$ where R_8 and R_9 , which may be the same or different, are each selected from the group consisting of hydrogen, alkyl, hydroxyalkyl, fluoroalkyl, hydroxy and alkoxy, or when taken together R_8 and R_9 may represent the group $-(CH_2)_x-$ where x is an integer from 2 to 5, and where the group R represents

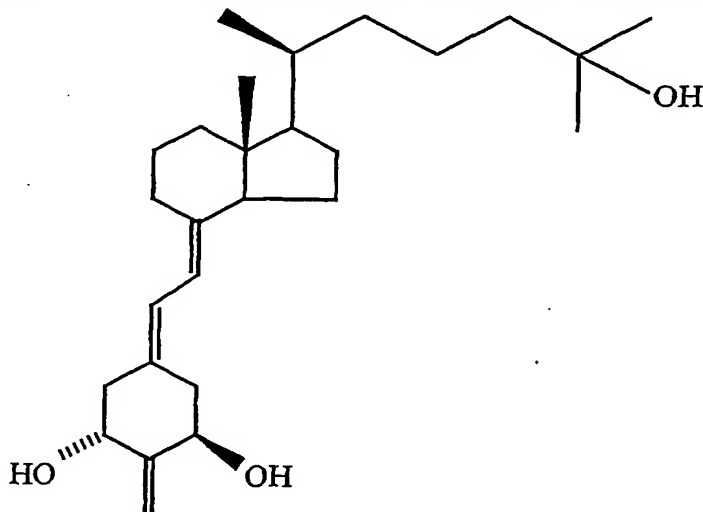


where the stereochemical center (corresponding to C-20 in steroid numbering) may have the R or S configuration, (i.e. either the natural configuration about carbon 20 or the 20-epi configuration), and where Z is selected from Y, -OY, -CH₂OY, -C≡CY and -CH=CHY, where the double bond may have the cis or trans geometry, and where Y is selected from hydrogen, methyl, -COR⁵ and a radical of the structure:

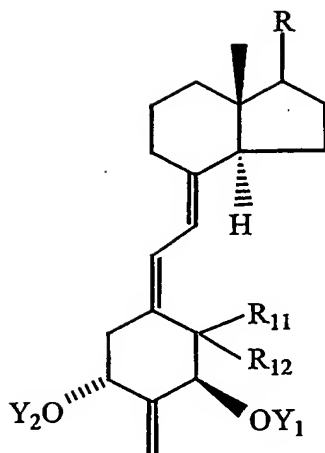


where m and n, independently, represent the integers from 0 to 5, where R¹ is selected from hydrogen, deuterium, hydroxy, protected hydroxy, fluoro, trifluoromethyl, and C₁₋₅-alkyl, which may be straight chain or branched and, optionally, bear a hydroxy or protected-hydroxy substituent, and where each of R², R³, and R⁴, independently, is selected from deuterium, deuterioalkyl, hydrogen, fluoro, trifluoromethyl and C₁₋₅ alkyl, which may be straight-chain or branched, and optionally, bear a hydroxy or protected-hydroxy substituent, and where R¹ and R², taken together, represent an oxo group, or an alkylidene group, =CR²R³, or the group -(CH₂)_p-, where p is an integer from 2 to 5, and where R³ and R⁴, taken together, represent an oxo group, or the group -(CH₂)_q-, where q is an integer from 2 to 5, and where R⁵ represents hydrogen, hydroxy, protected hydroxy, or C₁₋₅ alkyl and wherein any of the CH-groups at positions 20, 22, or 23 in the side chain may be replaced by a nitrogen atom, or where any of the groups -CH(CH₃)-, -(CH₂)_m-, -CR₁R₂- or -(CH₂)_n- at positions 20, 22, and 23, respectively, may be replaced by an oxygen or sulfur atom.

2. The method of claim 1 wherein the compound is administered orally.
3. The method of claim 1 wherein the compounds is administered parenterally.
4. The method of claim 1 wherein the compound is administered transdermally.
5. The method of claim 1 wherein the compound is administered topically.
6. The method of claim 1 wherein the compound is administered in an immobilized form at a site where growth of new bone is desired.
7. The method of claim 1 wherein the compound is administered in a slow release form at a site where growth of new bone is desired.
8. The method of claim 1 wherein the compound is administered in a dosage of from 0.01 μ g to 50 μ g per day.
9. The method of claim 1 wherein the mammal is a human.
10. The method of claim 1 wherein the compound administered is 2-methylene-19-nor-20(S)-1 α ,25-dihydroxyvitamin D₃ having the formula:



11. The method of claim 1 wherein the compound administered is an acylated derivative having the formula:



where Y^1 and Y^2 independently represent hydrogen or an acyl group, and with the proviso that R^5 is $-OY_3$ and Y_3 is selected from the group consisting of acyl or a hydrocarbyloxycarbonyl.

12. The method of claim 11 wherein the compound is a triacetate such that Y_1 , Y_2 and Y_3 are each CH_3CO- .

13. The method of claim 11 wherein the compound is a trihexanoate such that Y_1 , Y_2 and Y_3 are each $CH_3(CH_2)_4CO-$.

14. The method of claim 11 wherein the compound is a trinonanoate such that Y_1 , Y_2 and Y_3 are each $CH_3(CH_2)_7CO-$.

15. The method of claim 11 wherein the compound is a 25-acetate such that Y_1 and Y_2 are both hydrogen and Y_3 is CH_3CO- .

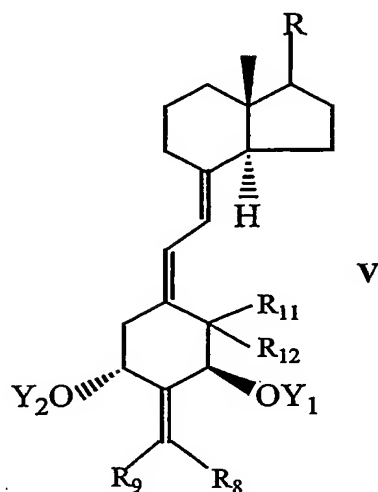
16. The method of claim 11 wherein the compound is 2-methylene-19-nor-1 α ,25(OH) $_2$ -D $_3$ -1,3,25-triacetate.

17. The method of claim 11 wherein the compound is 2-methylene-19-nor-1 α ,25(OH) $_2$ -D $_3$ -1,3,25-trihexanoate.

18. The method of claim 11 wherein the compound is 2-methylene-19-nor-1 α ,25(OH) $_2$ -D $_3$ -1,3,25-trinonanoate.

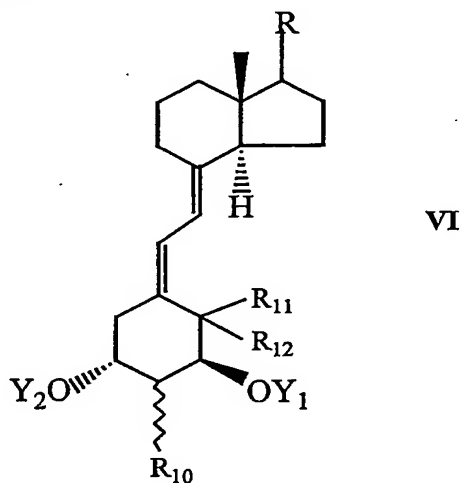
19. The method of claim 11 wherein the compound is 2-methylene-19-nor-1 α ,25(OH) $_2$ -D $_3$ -25-acetate.

20. The method of claim 1 wherein the compound administered is selected from the group consisting of:



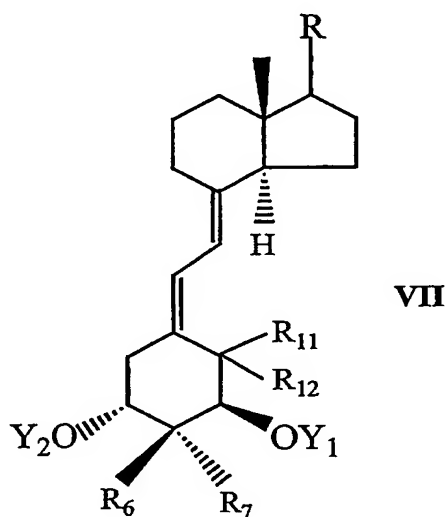
where Y_1 , Y_2 , R_{11} , R_{12} and R are as defined in claim 1 and R_8 and R_9 , which may be the same or different, are each selected from the group consisting of hydrogen, alkyl, hydroxyalkyl and fluoroalkyl, or, when taken together represent the group $-(CH_2)_X-$ where X is an integer from 2 to 5.

21. The method of claim 1 wherein the compound administered is selected from the group consisting of:



where Y_1 , Y_2 , R_{11} and R_{12} and R are as defined in claim 1 and R_{10} is selected from the group consisting of alkyl, hydroxyalkyl and fluoroalkyl.

22. The method of claim 1 wherein the compound administered is selected from the group consisting of:



where Y_1 , Y_2 , R_{11} , R_{12} , R_6 , R_7 and R are as defined in claim 1 with the proviso that R^5 is $-OY_3$ and Y_3 is selected from the group consisting of an acyl or a hydrocarbyloxycarbonyl.

23. The method of claim 1 wherein the compound is administered to stimulate healing of a bone fracture.

24. The method of claim 1 wherein the compound is administered to stimulate healing of a bone transplant.

25. The method of claim 1 wherein the compound is administered to stimulate solidification of an implant in bone.

26. The method of claim 1 wherein the compound is administered to stimulate osseointegration of a dental implant.

27. The method of claim 1 wherein the compound is administered to stimulate periodontal bone.

28. The method of claim 1 wherein the compound is administered following a distraction osteogenesis procedure.